
Cardiovascular Disease

PREVIOUSLY HAD A HEART ATTACK

Definition: Respondents who answered “yes” to the question “Has a doctor, nurse, or other health professional ever told you that you had a heart attack or myocardial infarction?”

Prevalence of previously had a heart attack

- South Dakota 4.7%
- Nationwide median 4.2%

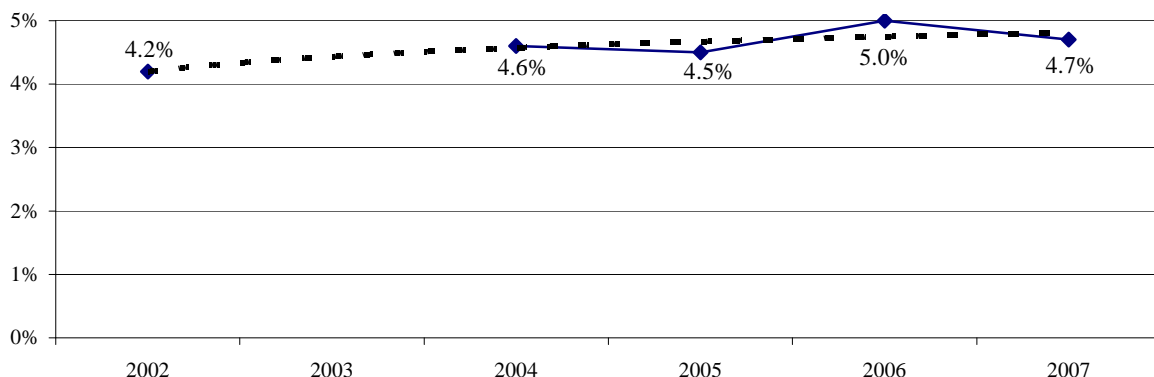
Healthy People 2010 Objective

There was no stated Healthy People 2010 Objective for previously had a heart attack.

Trend Analysis

This question was first asked in 2002 with 4.2 percent of respondents who have previously had a heart attack. In 2006, South Dakota reached an all time high of 5 percent of respondents who have previously had a heart attack, and in 2007 this dropped slightly to 4.7 percent.

Figure 52
Percent of Respondents Who Previously Had a Heart Attack,
2002 and 2004-2007



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2002 and 2004-2007

Demographics

- Gender** A significantly higher prevalence of males have had a heart attack than females. This gender difference is evident in specific demographic categories such as those 45 and older, whites, those in the southeast and northeast regions, and those in the higher income and education levels.
- Age** The prevalence of ever having a heart attack generally increases as age increases with a significant increase occurring as the 55-64 age group is reached. This association is more evident in males.
- Race** Overall, there are no racial differences demonstrated by the available data, but American Indian women do exhibit a significantly higher prevalence of a previous heart attack than white females.
- Region** There are no regional differences observed from the available data.

Household Income	The prevalence of ever having a heart attack is significantly lower for those in the higher income groups.
Education	Heart attack prevalence decreases as education increases. This includes a significant decrease as the college graduate level is reached.
Employment Status	Those who are retired or unable to work demonstrate a very high prevalence of ever having a heart attack, while those who are employed for wages, unemployed, or a homemaker show a very low prevalence.
Marital Status	Those who are widowed exhibit a very high prevalence of ever having a heart attack, while those who are married or have never been married show a very low prevalence.

Table 61
Respondents Who Previously Had a Heart Attack, 2007

	Total			Male			Female		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
Total	6,844	4.7	(4.2-5.2)	2,801	6.1	(5.3-7.0)	4,043	3.3	(2.7-4.0)
Age									
18-24	238	0.7	(0.1-4.8)	122	0.0	-	116	1.4	(0.2-9.4)
25-34	763	0.5	(0.1-1.6)	305	0.2	(0.0-1.3)	458	0.7	(0.2-3.4)
35-44	927	1.1	(0.6-1.9)	421	1.3	(0.7-2.7)	506	0.8	(0.3-2.2)
45-54	1,410	2.6	(1.8-3.7)	595	3.9	(2.6-6.0)	815	1.2	(0.6-2.4)
55-64	1,341	8.1	(6.5-10.0)	569	12.5	(9.7-16.0)	772	3.2	(2.2-4.8)
65-74	1,048	12.1	(9.9-14.6)	415	19.2	(15.2-24.0)	633	6.0	(4.2-8.5)
75+	1,050	16.1	(13.7-18.9)	362	20.9	(16.5-26.1)	688	13.1	(10.4-16.3)
Race									
White	6,000	4.6	(4.0-5.2)	2,460	6.2	(5.3-7.2)	3,540	3.0	(2.4-3.8)
American Indian	591	7.1	(5.0-10.0)	231	5.1	(2.9-9.0)	360	9.1	(5.9-13.9)
Region									
Southeast	1,535	3.9	(3.2-4.9)	640	5.3	(4.0-6.9)	895	2.6	(1.8-3.8)
Northeast	1,488	5.5	(4.5-6.8)	629	7.2	(5.6-9.3)	859	3.7	(2.6-5.2)
Central	1,428	4.6	(3.7-5.8)	577	6.2	(4.6-8.2)	851	3.2	(2.3-4.6)
West	1,522	4.7	(3.6-6.2)	598	6.2	(4.6-8.3)	924	3.6	(2.1-5.9)
American Indian Counties	871	6.0	(4.5-8.2)	357	6.7	(4.2-10.4)	514	5.4	(3.7-7.9)
Household Income									
Less than \$10,000	307	11.0	(7.3-16.2)	103	13.2	(7.7-21.8)	204	9.5	(5.3-16.7)
\$10,000-\$14,999	366	9.2	(6.4-13.1)	122	12.1	(7.0-20.1)	244	7.5	(4.6-12.0)
\$15,000-\$19,999	499	7.2	(5.2-10.0)	177	8.5	(5.2-13.6)	322	6.3	(4.0-9.8)
\$20,000-\$24,999	660	6.7	(4.9-9.0)	228	8.9	(5.7-13.7)	432	5.1	(3.4-7.7)
\$25,000-\$34,999	882	6.9	(5.2-9.0)	386	9.8	(7.1-13.3)	496	3.6	(1.9-6.6)
\$35,000-\$49,999	1,157	4.7	(3.3-6.7)	526	6.5	(4.6-9.0)	631	3.0	(1.3-6.7)
\$50,000-\$74,999	1,068	2.0	(1.4-3.0)	487	3.2	(2.0-4.9)	581	0.7	(0.3-1.6)
\$75,000+	1,035	2.2	(1.5-3.3)	527	3.7	(2.4-5.5)	508	0.2	(0.0-0.8)
Education									
8th Grade or Less	257	12.3	(8.4-17.7)	136	11.7	(7.0-19.1)	121	13.4	(7.7-22.1)
Some High School	380	8.9	(6.3-12.5)	148	9.5	(5.9-15.1)	232	8.3	(4.9-13.7)
High School or G.E.D.	2,264	5.5	(4.6-6.5)	992	6.9	(5.5-8.6)	1,272	4.0	(3.0-5.3)
Some Post-High School	1,922	4.7	(3.7-6.0)	682	6.7	(5.0-8.7)	1,240	3.3	(2.1-5.1)
College Graduate	2,009	2.4	(1.8-3.1)	840	3.6	(2.5-5.0)	1,169	1.2	(0.7-1.9)
Employment Status									
Employed for Wages	3,195	1.9	(1.5-2.5)	1,283	3.0	(2.3-4.0)	1,912	0.9	(0.5-1.5)
Self-employed	965	3.9	(2.8-5.3)	638	5.2	(3.7-7.3)	327	0.6	(0.2-1.4)
Unemployed	162	4.6	(2.2-9.5)	*	*	*	*	*	*
Homemaker	435	3.3	(2.0-5.5)	*	*	*	*	*	*
Retired	1,652	13.1	(11.3-15.1)	624	17.8	(14.7-21.6)	1,028	9.2	(7.4-11.4)
Unable to Work	325	17.8	(13.3-23.5)	134	21.1	(14.2-30.1)	191	14.8	(9.6-22.3)

Table 61 (continued)									
Respondents Who Previously Had a Heart Attack, 2007									
	Total			Male			Female		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
Marital Status									
Married/Unmarried Couple	4,115	4.0	(3.4-4.6)	1,815	6.2	(5.3-7.4)	2,300	1.8	(1.3-2.4)
Divorced/Separated	930	8.1	(6.2-10.5)	394	11.7	(8.5-15.8)	536	5.1	(3.2-8.1)
Widowed	1,049	13.7	(11.5-16.4)	177	23.2	(16.6-31.6)	872	11.7	(9.5-14.4)
Never Married	732	1.8	(0.8-3.7)	410	1.3	(0.7-2.4)	322	2.5	(0.7-8.6)

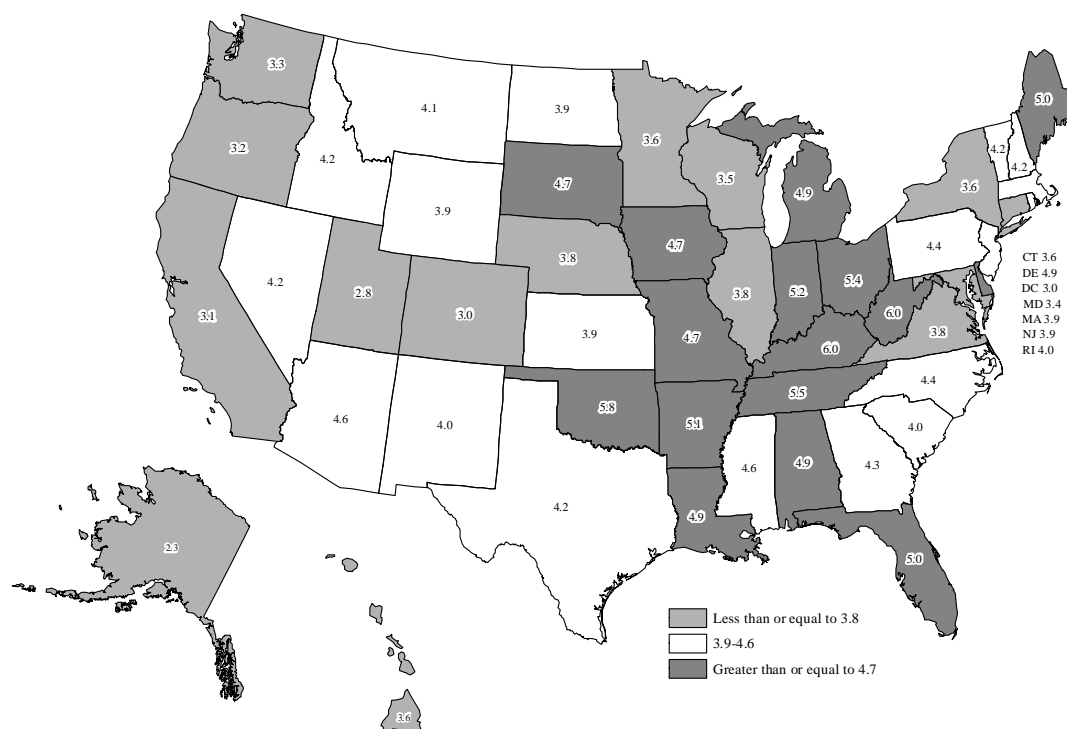
Note: *Results based on sample sizes less than 100 have been suppressed.

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

National Statistics

The national median for respondents who previously had a heart attack was 4.2 percent. South Dakota had 4.7 percent of respondents who have previously had a heart attack. Alaska had the lowest percent of respondents who previously had a heart attack with 2.3 percent, while West Virginia had the highest percent with 6 percent.

Figure 53
Nationally, Respondents Who Previously Had a Heart Attack, 2007



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

Further Analysis

Following are data illustrating the percent of those who previously had a heart attack for various health behaviors and conditions. For example, 17.7 percent of respondents who stated they have fair or poor health status had a heart attack, while 2.8 percent of respondents who stated they have excellent, very good, or good health status had a heart attack.

Table 62
Previously Had a Heart Attack for Selected Health Behaviors and Conditions, 2007

Health Behavior or Condition	# Respondents	% with Previous Heart Attack	95% CI
Obese (BMI = 30.0+)	1,828	6.4	5.2-7.9
Overweight (BMI = 25.0-29.9)	2,553	4.9	4.1-5.8
Recommended Weight (BMI = 18.5-24.9)	2,051	3.1	2.4-3.9
No Leisure Time Physical Activity	1,856	7.7	6.5-9.1
Leisure Time Physical Activity	4,982	3.8	3.2-4.4
No Moderate Physical Activity	3,531	5.6	4.9-6.5
Moderate Physical Activity	2,833	3.8	3.1-4.7
No Vigorous Physical Activity	5,191	5.3	4.7-6.0
Vigorous Physical Activity	1,346	3.4	2.4-4.8
Less Than Five Servings of Fruits and Vegetables	5,353	4.6	4.0-5.2
At Least Five Servings of Fruits and Vegetables	1,363	5.5	4.3-6.9
Current Smoker	1,288	5.1	3.8-6.8
Former Smoker	1,981	8.8	7.5-10.3
Never Smoked	3,562	2.7	2.2-3.2
Smokeless Tobacco Use	308	3.0	1.6-5.5
No Smokeless Tobacco Use	6,247	4.9	4.4-5.6
Diabetes	653	16.5	13.5-20.1
No Diabetes	6,191	3.8	3.3-4.4
Hypertension	2,333	12.5	10.9-14.2
No Hypertension	4,506	2.0	1.6-2.4
High Blood Cholesterol	2,223	11.2	9.7-12.9
No High Blood Cholesterol	3,418	3.1	2.5-3.7
No Health Insurance (18-64)	405	2.7	1.4-5.2
Health Insurance (18-64)	4,023	2.5	2.0-3.1
Employer Based Health Insurance Coverage (18-64)	2,581	1.8	1.2-2.5
Private Health Insurance Plan (18-64)	558	1.3	0.6-2.8
Medicare (18-64)	155	14.9	9.5-22.5
Medicaid or Medical Assistance (18-64)	158	2.5	0.8-7.0
The Military, CHAMPUS, TriCare, or the VA (18-64)	228	7.1	4.3-11.4
The Indian Health Service (18-64)	265	6.7	4.0-11.0
No Flu Shot (65+)	502	12.2	9.2-16.0
Flu Shot (65+)	1,591	14.8	12.8-16.9
No Pneumonia Shot (65+)	720	8.7	6.6-11.4
Pneumonia Shot (65+)	1,290	17.1	14.8-19.7
Doesn't Use Sun Block	4,140	4.8	4.1-5.5
Uses Sun Block	1,606	3.0	2.1-4.4
Doesn't Know Cervical Cancer - HPV Connection (Females)	796	6.6	4.9-8.7
Knows Cervical Cancer - HPV Connection (Females)	3,011	2.5	1.9-3.4
Drank Alcohol in Past 30 Days	3,512	3.3	2.7-4.0
No Alcohol in Past 30 Days	3,288	6.6	5.7-7.5
Binge Drinker	879	1.8	0.9-3.7
Not a Binge Drinker	5,821	5.3	4.7-5.9
Heavy Drinker	219	2.4	1.1-5.3
Not a Heavy Drinker	6,410	4.8	4.3-5.4
Have Angina or Coronary Heart Disease	395	52.9	47.1-58.7
Do Not Have Angina or Coronary Heart Disease	6,379	2.5	2.1-2.9
Previously Had a Stroke	263	34.5	28.0-41.7
Never Had a Stroke	6,571	3.8	3.4-4.4
Current Asthma	498	8.3	6.1-11.3
Former Asthma	172	4.9	2.7-8.8
Never Had Asthma	6,134	4.4	3.9-5.0

Table 62 (continued)			
Previously Had a Heart Attack for Selected Health Behaviors and Conditions, 2007			
Health Behavior or Condition	# Respondents	% with Previous Heart Attack	95% CI
Arthritis	2,419	9.8	8.5-11.2
No Arthritis	4,322	2.8	2.3-3.4
Arthritis - Activities Limited	1,156	13.0	10.8-15.4
No Arthritis - Activities Limited	5,565	3.5	3.0-4.0
Fair or Poor Health Status	1,140	17.7	15.2-20.5
Excellent, Very Good, or Good Health Status	5,684	2.8	2.4-3.3
Physical Health Not Good for 30 Days of the Past 30	497	16.8	13.2-21.1
Physical Health Not Good for 0-29 Days of the Past 30	6,198	3.8	3.3-4.4
Mental Health Not Good for 20-30 Days of the Past 30	371	8.8	6.1-12.6
Mental Health Not Good for 0-19 Days of the Past 30	6,354	4.4	3.9-5.0
Usual Activities Unattainable for 10-30 Days of the Past 30	487	15.0	11.6-19.0
Usual Activities Unattainable for 0-9 Days of the Past 30	6,294	4.0	3.5-4.6
Dissatisfied / Very Dissatisfied with Life	266	9.1	6.1-13.6
Satisfied / Very Satisfied with Life	6,311	4.6	4.1-5.2
Physical, Mental, or Emotional Disability	1,551	11.6	9.9-13.6
No Physical, Mental, or Emotional Disability	5,222	3.2	2.7-3.7
Disability with Special Equipment Needed	607	16.3	13.1-20.1
No Disability with Special Equipment Needed	6,171	3.9	3.5-4.5
Two or More Hours of TV Watched Per Day	4,871	5.6	4.9-6.3
Less Than Two Hours of TV Watched Per Day	1,582	2.7	2.0-3.7
Never Been Tested for HIV (18-64)	3,434	2.3	1.8-3.0
Been Tested for HIV (18-64)	1,002	3.0	2.1-4.3
Diarrhea in Past 30 Days	960	4.0	2.9-5.4
No Diarrhea in Past 30 Days	5,597	4.9	4.3-5.6
Military Veteran	1,002	13.0	10.9-15.5
Not a Military Veteran	5,839	3.4	2.9-3.9

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

ANGINA OR CORONARY HEART DISEASE

Definition: Respondents who answered “yes” to the question “Has a doctor, nurse, or other health professional ever told you that you have angina or coronary heart disease?”

Prevalence of angina or coronary heart disease

- South Dakota 4.0%
- Nationwide median 4.1%

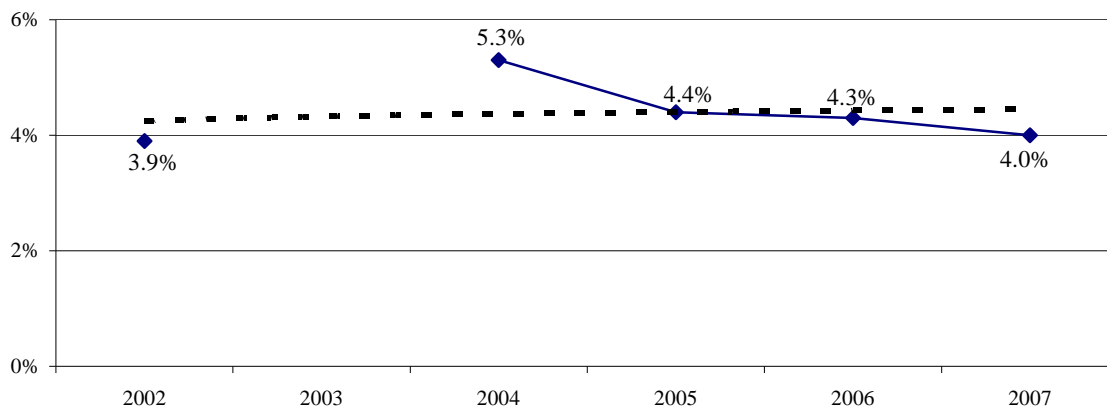
Healthy People 2010 Objective

There was no stated Healthy People 2010 Objective for having angina or coronary heart disease.

Trend Analysis

This question was first asked in 2002 with 3.9 percent of respondents who have angina or coronary heart disease. Since 2004, however, the percent has been decreasing each year with 2007 having 4.0 percent of respondents who have angina or coronary heart disease.

Figure 54
Percent of Respondents Who Have Angina or Coronary Heart Disease, 2002 and 2004-2007



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2002 and 2004-2007

Demographics

- Gender** Males exhibit a significantly higher prevalence of heart disease than females. This gender difference is evident in specific demographic categories such as whites, those in the higher income and education groups, and those who are married.
- Age** The prevalence of heart disease generally increases as age increases with significant increases occurring at the 45-54 and 55-64 age groups. This association is more evident in males.
- Race** There are no racial differences observed from the available data.
- Region** Those in the west region demonstrate a very high prevalence of heart disease, while those in the southeast show a very low prevalence.

Household Income	The prevalence of heart disease is higher in the lower household income groups.
Education	Heart disease prevalence decreases as education increases. This association is more evident in females.
Employment Status	Those who are unable to work demonstrate a very high prevalence of heart disease, while those who are employed for wages, self-employed, unemployed, or a homemaker show a very low prevalence.
Marital Status	Those who are divorced, separated, or widowed exhibit a very high prevalence of heart disease, while those who have never been married show a very low prevalence.

Table 63
Respondents Who Have Angina or Coronary Heart Disease, 2007

	Total			Male			Female		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
Total	6,797	4.0	(3.5-4.5)	2,788	4.9	(4.2-5.7)	4,009	3.1	(2.6-3.7)
Age									
18-24	239	0.3	(0.0-2.4)	123	0.0	-	116	0.7	(0.1-4.9)
25-34	761	0.2	(0.0-1.1)	303	0.1	(0.0-0.6)	458	0.4	(0.1-2.6)
35-44	925	1.0	(0.6-1.9)	420	0.7	(0.3-1.8)	505	1.4	(0.6-2.9)
45-54	1,407	2.8	(2.0-4.0)	593	2.9	(1.7-4.8)	814	2.8	(1.8-4.4)
55-64	1,334	7.1	(5.6-9.0)	566	11.1	(8.5-14.4)	768	2.9	(1.8-4.6)
65-74	1,040	11.1	(9.0-13.6)	414	16.1	(12.5-20.5)	626	6.8	(4.7-9.7)
75+	1,024	12.3	(10.3-14.7)	357	16.1	(12.3-20.8)	667	9.9	(7.8-12.6)
Race									
White	5,962	4.0	(3.6-4.6)	2,449	5.1	(4.3-5.9)	3,513	3.0	(2.5-3.7)
American Indian	584	4.6	(3.0-6.9)	230	3.7	(1.8-7.4)	354	5.5	(3.3-9.0)
Region									
Southeast	1,528	3.1	(2.5-4.0)	639	4.1	(3.1-5.6)	889	2.1	(1.4-3.2)
Northeast	1,475	4.5	(3.6-5.6)	625	5.5	(4.1-7.2)	850	3.5	(2.4-4.9)
Central	1,413	3.8	(3.0-4.9)	570	4.7	(3.4-6.5)	843	3.0	(2.1-4.4)
West	1,518	5.1	(4.1-6.3)	599	6.3	(4.7-8.3)	919	4.0	(2.9-5.6)
American Indian Counties	863	3.9	(2.8-5.4)	355	2.9	(1.7-5.0)	508	4.8	(3.2-7.3)
Household Income									
Less than \$10,000	307	10.1	(6.7-14.7)	101	11.7	(6.5-20.1)	206	9.0	(5.3-15.1)
\$10,000-\$14,999	364	5.4	(3.6-8.2)	122	5.5	(2.8-10.7)	242	5.4	(3.2-9.0)
\$15,000-\$19,999	489	7.0	(4.8-9.9)	175	7.6	(4.4-12.8)	314	6.5	(4.0-10.5)
\$20,000-\$24,999	659	5.4	(3.9-7.4)	229	6.2	(3.8-10.2)	430	4.8	(3.1-7.3)
\$25,000-\$34,999	873	5.6	(4.2-7.4)	384	7.8	(5.5-10.9)	489	3.1	(1.8-5.2)
\$35,000-\$49,999	1,151	3.7	(2.7-5.0)	522	5.6	(3.9-7.9)	629	1.8	(1.0-3.4)
\$50,000-\$74,999	1,063	2.5	(1.7-3.7)	483	2.7	(1.7-4.3)	580	2.2	(1.1-4.4)
\$75,000+	1,032	2.5	(1.7-3.6)	526	3.6	(2.3-5.4)	506	1.0	(0.5-2.1)
Education									
8th Grade or Less	252	9.7	(6.2-14.9)	136	8.5	(4.6-15.2)	116	12.0	(6.3-21.5)
Some High School	375	7.2	(5.0-10.4)	145	8.5	(5.0-13.9)	230	6.0	(3.4-10.3)
High School or G.E.D.	2,252	4.5	(3.7-5.4)	990	4.7	(3.6-6.1)	1,262	4.2	(3.1-5.7)
Some Post-High School	1,910	3.9	(3.2-4.9)	677	5.8	(4.3-7.7)	1,233	2.5	(1.8-3.6)
College Graduate	1,997	2.5	(1.9-3.3)	837	3.5	(2.5-4.8)	1,160	1.5	(1.1-2.2)
Employment Status									
Employed for Wages	3,193	1.9	(1.5-2.5)	1,283	2.4	(1.8-3.3)	1,910	1.4	(0.9-2.2)
Self-employed	959	2.7	(1.8-4.0)	633	3.6	(2.4-5.4)	326	0.5	(0.1-2.7)
Unemployed	159	2.8	(1.2-6.5)	*	*	*	*	*	*
Homemaker	430	3.1	(1.8-5.3)	*	*	*	*	*	*
Retired	1,627	11.2	(9.5-13.1)	619	14.9	(12.0-18.3)	1,008	8.1	(6.4-10.2)
Unable to Work	320	17.8	(13.4-23.3)	134	19.0	(12.6-27.6)	186	16.7	(11.2-24.2)

Table 63 (continued)									
Respondents Who Have Angina or Coronary Heart Disease, 2007									
	Total			Male			Female		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
Marital Status									
Married/Unmarried Couple	4,095	3.6	(3.1-4.2)	1,806	5.1	(4.2-6.1)	2,289	2.2	(1.6-2.9)
Divorced/Separated	924	7.1	(5.4-9.2)	393	8.0	(5.6-11.3)	531	6.2	(4.2-9.3)
Widowed	1,027	10.8	(8.9-13.1)	175	19.1	(13.3-26.6)	852	9.0	(7.1-11.3)
Never Married	733	1.0	(0.6-1.7)	409	1.3	(0.7-2.2)	324	0.7	(0.3-1.6)

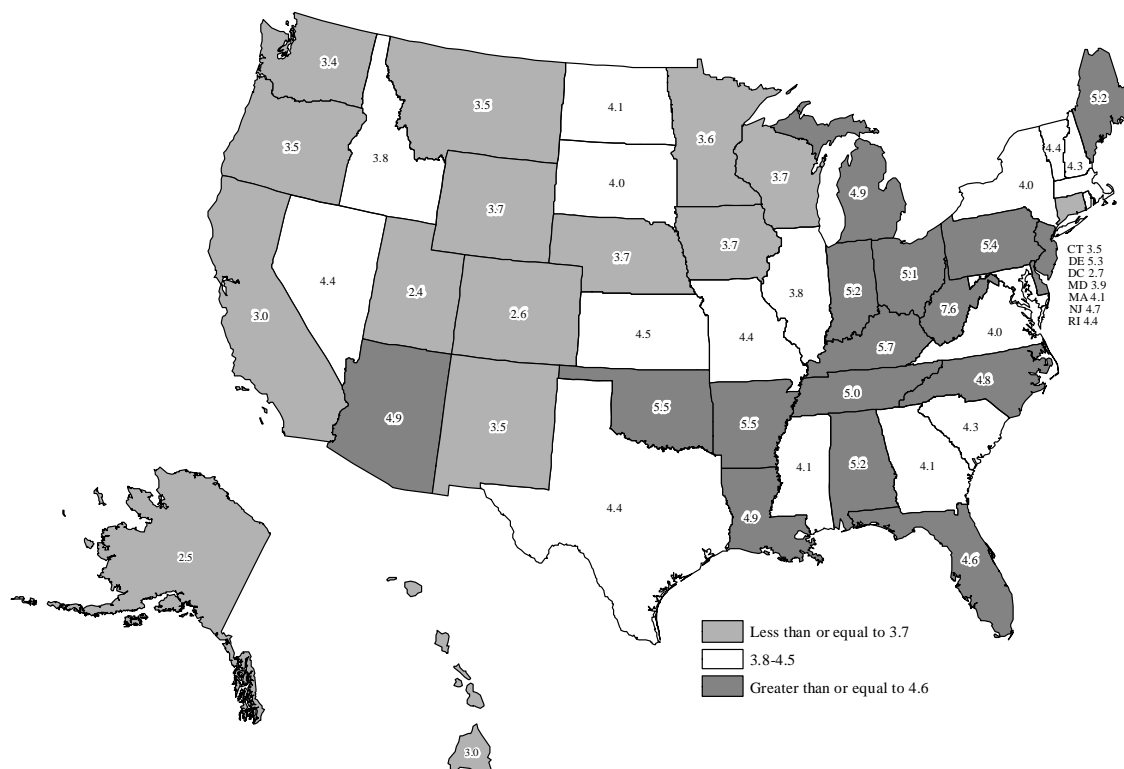
Note: *Results based on sample sizes less than 100 have been suppressed.

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

National Statistics

The national median for respondents who have angina or coronary heart disease was 4.1 percent. South Dakota had 4.0 percent of respondents who have angina or coronary heart disease. Utah had the lowest percent of respondents who have angina or coronary heart disease with 2.4 percent, while West Virginia had the highest percent with 7.6 percent.

Figure 55
Nationally, Respondents Who Have Angina or Coronary Heart Disease, 2007



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

Further Analysis

Following are data illustrating the percent of those who have angina or coronary heart disease for various health behaviors and conditions. For example, 8.2 percent of respondents who stated they were a former smoker have angina or coronary heart disease, while 2.2 percent of respondents who stated they never smoked have angina or coronary heart disease.

Table 64 Have Angina or Coronary Heart Disease for Selected Health Behaviors and Conditions, 2007			
Health Behavior or Condition	# Respondents	% with Heart Disease	95% CI
Obese (BMI = 30.0+)	1,814	4.9	3.9-6.0
Overweight (BMI = 25.0-29.9)	2,536	4.3	3.6-5.1
Recommended Weight (BMI = 18.5-24.9)	2,035	3.0	2.3-3.8
No Leisure Time Physical Activity	1,844	6.6	5.5-7.9
Leisure Time Physical Activity	4,947	3.2	2.8-3.7
No Moderate Physical Activity	3,510	4.6	4.0-5.3
Moderate Physical Activity	2,815	3.5	2.9-4.2
No Vigorous Physical Activity	5,156	4.4	3.9-5.0
Vigorous Physical Activity	1,339	3.1	2.3-4.2
Less Than Five Servings of Fruits and Vegetables	5,315	3.7	3.3-4.3
At Least Five Servings of Fruits and Vegetables	1,355	5.4	4.2-6.8
Current Smoker	1,284	3.7	2.8-4.9
Former Smoker	1,968	8.2	7.0-9.6
Never Smoked	3,532	2.2	1.8-2.7
Smokeless Tobacco Use	308	2.6	1.4-4.9
No Smokeless Tobacco Use	6,203	4.2	3.7-4.7
Diabetes	638	14.1	11.3-17.6
No Diabetes	6,158	3.3	2.9-3.7
Hypertension	2,297	10.8	9.5-12.4
No Hypertension	4,494	1.7	1.3-2.1
High Blood Cholesterol	2,191	9.7	8.4-11.1
No High Blood Cholesterol	3,406	2.6	2.2-3.3
No Health Insurance (18-64)	404	1.7	0.8-3.6
Health Insurance (18-64)	4,012	2.3	1.9-2.8
Employer Based Health Insurance Coverage (18-64)	2,580	1.5	1.1-2.0
Private Health Insurance Plan (18-64)	556	1.7	0.7-4.0
Medicare (18-64)	153	17.3	11.4-25.5
Medicaid or Medical Assistance (18-64)	153	2.1	1.0-4.5
The Military, CHAMPUS, TriCare, or the VA (18-64)	229	7.4	4.6-11.6
The Indian Health Service (18-64)	263	3.2	1.4-7.0
No Flu Shot (65+)	494	10.0	7.3-13.5
Flu Shot (65+)	1,563	12.3	10.5-14.3
No Pneumonia Shot (65+)	711	6.8	4.9-9.3
Pneumonia Shot (65+)	1,269	14.9	12.8-17.3
Doesn't Use Sun Block	4,112	4.0	3.4-4.6
Uses Sun Block	1,602	2.7	2.0-3.6
Doesn't Know Cervical Cancer - HPV Connection (Females)	781	6.3	4.4-8.9
Knows Cervical Cancer - HPV Connection (Females)	2,993	2.4	1.9-2.9
Drank Alcohol in Past 30 Days	3,496	2.9	2.4-3.5
No Alcohol in Past 30 Days	3,258	5.5	4.7-6.3
Binge Drinker	877	1.0	0.6-1.8
Not a Binge Drinker	5,780	4.6	4.1-5.2
Heavy Drinker	220	2.5	1.2-5.1
Not a Heavy Drinker	6,367	4.1	3.6-4.6
Previously Had a Heart Attack	433	46.5	40.7-52.4
Never Had a Heart Attack	6,341	1.9	1.6-2.3
Previously Had a Stroke	253	29.9	23.5-37.1
Never Had a Stroke	6,534	3.3	2.9-3.7

Table 64 (continued)			
Have Angina or Coronary Heart Disease for Selected Health Behaviors and Conditions, 2007			
Health Behavior or Condition	# Respondents	% with Heart Disease	95% CI
Current Asthma	491	8.2	6.0-11.0
Former Asthma	171	2.2	0.9-4.9
Never Had Asthma	6,097	3.7	3.2-4.2
Arthritis	2,401	9.4	8.2-10.8
No Arthritis	4,292	2.0	1.6-2.4
Arthritis - Activities Limited	1,144	11.8	9.9-14.2
No Arthritis - Activities Limited	5,528	2.9	2.5-3.3
Fair or Poor Health Status	1,107	15.8	13.4-18.4
Excellent, Very Good, or Good Health Status	5,670	2.3	2.0-2.8
Physical Health Not Good for 30 Days of the Past 30	498	16.3	13.0-20.4
Physical Health Not Good for 0-29 Days of the Past 30	6,157	3.2	2.8-3.6
Mental Health Not Good for 20-30 Days of the Past 30	370	9.6	7.0-13.1
Mental Health Not Good for 0-19 Days of the Past 30	6,311	3.6	3.2-4.1
Usual Activities Unattainable for 10-30 Days of the Past 30	482	14.6	11.4-18.5
Usual Activities Unattainable for 0-9 Days of the Past 30	6,255	3.3	2.9-3.8
Dissatisfied / Very Dissatisfied with Life	267	10.1	6.8-14.7
Satisfied / Very Satisfied with Life	6,265	3.8	3.4-4.3
Physical, Mental, or Emotional Disability	1,534	11.3	9.6-13.2
No Physical, Mental, or Emotional Disability	5,193	2.4	2.0-2.8
Disability with Special Equipment Needed	604	14.8	11.8-18.3
No Disability with Special Equipment Needed	6,127	3.3	2.9-3.8
Two or More Hours of TV Watched Per Day	4,836	4.7	4.1-5.4
Less Than Two Hours of TV Watched Per Day	1,574	2.5	1.8-3.3
Never Been Tested for HIV (18-64)	3,430	2.2	1.7-2.7
Been Tested for HIV (18-64)	993	2.5	1.7-3.5
Diarrhea in Past 30 Days	953	4.2	3.1-5.6
No Diarrhea in Past 30 Days	5,560	4.0	3.5-4.6
Military Veteran	999	11.5	9.5-13.8
Not a Military Veteran	5,795	2.8	2.4-3.3

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

PREVIOUSLY HAD A STROKE

Definition: Respondents who answered “yes” to the question “Has a doctor, nurse, or other health professional ever told you that you have had a stroke?”

Prevalence of previously had a stroke

- South Dakota 2.6%
- Nationwide median 2.6%

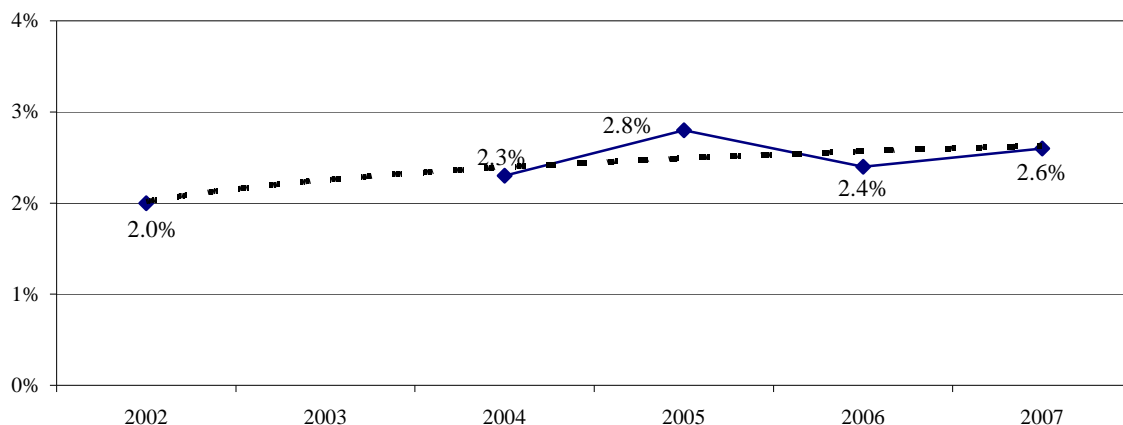
Healthy People 2010 Objective

There was no stated Healthy People 2010 Objective for previously had a stroke.

Trend Analysis

This question was first asked in 2002 with a low of 2.0 percent of respondents stating they have previously had a stroke. This percentage has generally been increasing since the question was first asked.

Figure 56
Percent of Respondents Who Have Previously Had a Stroke,
2002 and 2004-2007



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2002 and 2004-2007

Demographics

Gender	There is no gender difference exhibited by the available data for ever having had a stroke.
Age	The prevalence of ever having had a stroke generally increases as age increases. This includes significant increases when the 45-54 and 65-74 age groups are reached. This age association is more evident in males.
Race	There are no racial differences demonstrated by the available data.
Region	There are no regional differences observed from the available data.
Household Income	The prevalence of ever having had a stroke generally decreases as household income increases.

Education Stroke prevalence is lower in the higher education levels.

Employment Status Those who are unable to work demonstrate a very high prevalence of ever having had a stroke, while those who are employed for wages, self-employed, unemployed, or a homemaker show a very low prevalence.

Marital Status Those who are divorced, separated, or widowed exhibit a very high prevalence of ever having had a stroke, while those who are married, or have never been married show a very low prevalence.

Table 65
Respondents Who Previously Had a Stroke, 2007

	Total			Male			Female		
	# Resp.	%	95% CI	# Resp.	%	95% CI	# Resp.	%	95% CI
Total	6,858	2.6	(2.2-3.0)	2,805	2.3	(1.9-2.9)	4,053	2.8	(2.3-3.5)
Age									
18-24	239	0.4	(0.1-2.7)	123	0.0	-	116	0.8	(0.1-5.5)
25-34	764	0.3	(0.1-1.1)	305	0.2	(0.0-1.3)	459	0.5	(0.1-2.2)
35-44	926	0.6	(0.3-1.3)	420	0.7	(0.2-2.1)	506	0.6	(0.2-1.6)
45-54	1,413	2.1	(1.4-3.1)	595	2.1	(1.1-3.7)	818	2.2	(1.3-3.7)
55-64	1,340	3.1	(2.2-4.3)	569	2.9	(1.7-4.7)	771	3.3	(2.1-5.2)
65-74	1,058	6.3	(4.8-8.3)	420	6.7	(4.5-10.0)	638	5.9	(4.0-8.6)
75+	1,051	9.6	(7.7-11.9)	361	10.0	(7.2-13.7)	690	9.3	(6.9-12.4)
Race									
White	6,012	2.5	(2.2-3.0)	2,462	2.3	(1.8-2.9)	3,550	2.8	(2.3-3.5)
American Indian	592	2.8	(1.6-4.7)	232	1.0	(0.4-2.3)	360	4.6	(2.4-8.4)
Region									
Southeast	1,536	2.4	(1.8-3.2)	640	2.0	(1.3-3.0)	896	2.8	(2.0-4.0)
Northeast	1,490	2.8	(2.1-3.6)	628	2.3	(1.6-3.5)	862	3.2	(2.2-4.6)
Central	1,429	3.0	(2.0-4.5)	576	3.0	(2.0-4.7)	853	3.0	(1.5-5.9)
West	1,531	2.4	(1.8-3.2)	603	2.3	(1.4-3.7)	928	2.4	(1.7-3.6)
American Indian Counties	872	3.1	(2.1-4.4)	358	3.1	(1.8-5.4)	514	3.0	(1.8-4.8)
Household Income									
Less than \$10,000	310	9.0	(5.8-13.9)	102	10.3	(5.7-17.7)	208	8.3	(4.3-15.3)
\$10,000-\$14,999	367	6.5	(4.3-9.7)	122	6.8	(3.7-12.4)	245	6.2	(3.6-10.7)
\$15,000-\$19,999	501	4.2	(2.7-6.5)	178	4.9	(2.6-9.2)	323	3.7	(2.0-6.7)
\$20,000-\$24,999	662	3.0	(1.9-4.6)	230	1.5	(0.6-3.4)	432	4.0	(2.4-6.7)
\$25,000-\$34,999	883	3.0	(2.0-4.5)	387	4.1	(2.5-6.8)	496	1.7	(0.9-3.4)
\$35,000-\$49,999	1,157	1.8	(1.2-2.7)	526	2.4	(1.4-4.1)	631	1.1	(0.6-2.3)
\$50,000-\$74,999	1,066	1.2	(0.7-2.0)	485	0.8	(0.4-1.8)	581	1.5	(0.7-3.3)
\$75,000+	1,036	1.2	(0.7-1.9)	528	1.2	(0.6-2.4)	508	1.1	(0.5-2.3)
Education									
8th Grade or Less	262	6.3	(3.8-10.2)	139	4.9	(2.5-9.5)	123	8.7	(4.2-17.2)
Some High School	380	6.8	(4.6-10.1)	146	5.9	(3.3-10.5)	234	7.7	(4.5-13.1)
High School or G.E.D.	2,270	2.6	(1.9-3.3)	994	2.7	(1.9-3.9)	1,276	2.4	(1.5-3.6)
Some Post-High School	1,925	3.1	(2.4-4.0)	683	2.3	(1.5-3.6)	1,242	3.6	(2.6-5.0)
College Graduate	2,009	1.1	(0.8-1.6)	840	0.9	(0.5-1.6)	1,169	1.3	(0.9-2.0)
Employment Status									
Employed for Wages	3,203	0.9	(0.6-1.4)	1,288	0.4	(0.2-0.9)	1,915	1.4	(0.9-2.3)
Self-employed	964	2.0	(1.2-3.2)	636	2.0	(1.1-3.5)	328	2.1	(0.9-4.8)
Unemployed	162	1.3	(0.5-3.6)	*	*	*	*	*	*
Homemaker	435	1.7	(0.8-3.5)	*	*	*	*	*	*
Retired	1,660	7.8	(6.4-9.4)	629	8.3	(6.2-10.9)	1,031	7.4	(5.7-9.5)
Unable to Work	324	13.8	(9.9-18.9)	130	14.6	(9.1-22.6)	194	13.1	(8.2-20.4)
Marital Status									
Married/Unmarried Couple	4,118	2.1	(1.7-2.6)	1,816	2.1	(1.6-2.8)	2,302	2.1	(1.6-2.8)
Divorced/Separated	932	5.4	(3.9-7.5)	394	5.9	(3.8-9.0)	538	5.1	(3.1-8.2)
Widowed	1,052	7.3	(5.7-9.3)	177	8.7	(5.3-14.0)	875	7.0	(5.3-9.3)
Never Married	738	0.9	(0.4-2.1)	413	0.7	(0.3-1.5)	325	1.3	(0.3-5.1)

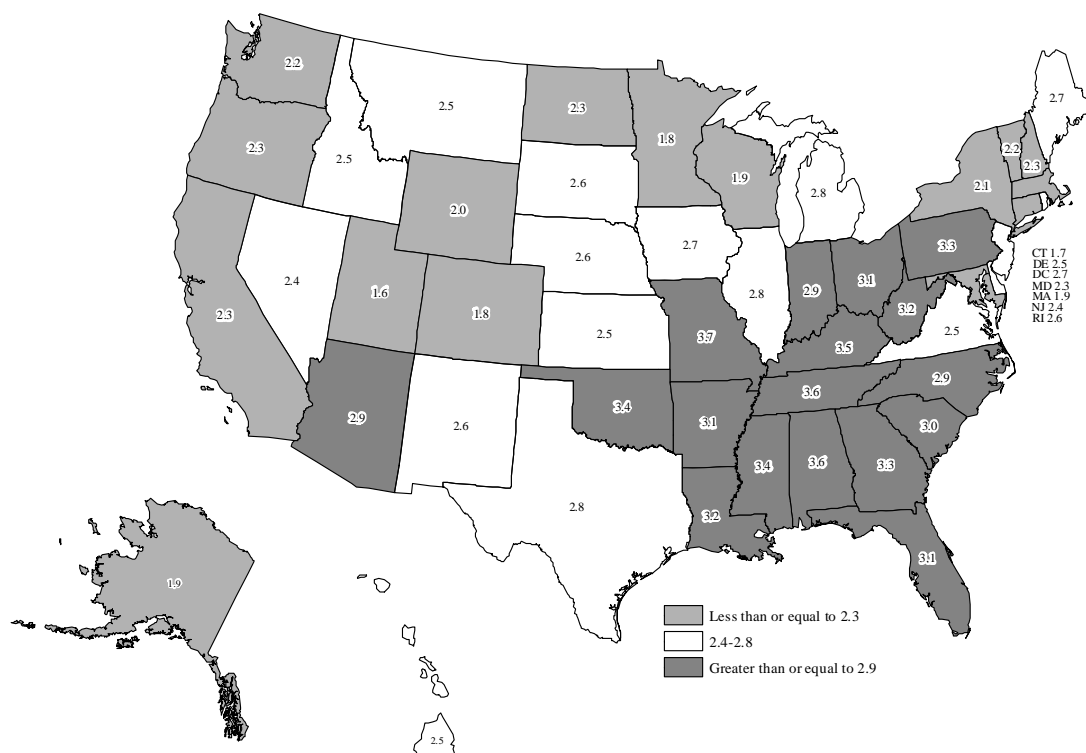
Note: *Results based on sample sizes less than 100 have been suppressed.

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

National Statistics

The national median for respondents who previously had a stroke was 2.6 percent. South Dakota had 2.6 percent of respondents who previously had a stroke. Utah had the lowest percent of respondents who previously had a stroke with 1.6 percent, while Missouri had the highest percent with 3.7 percent.

Figure 57
Nationally, Respondents Who Previously Had a Stroke, 2007



Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

Further Analysis

Following are data illustrating the percent of those who previously had a stroke for various health behaviors and conditions. For example, 10.3 percent of respondents who stated they have diabetes previously had a stroke, while 2.0 percent of respondents who stated they do not have diabetes previously had a stroke.

Table 66 Previously Had a Stroke for Selected Health Behaviors and Conditions, 2007			
Health Behavior or Condition	# Respondents	% Had Stroke	95% CI
Obese (BMI = 30.0+)	1,833	2.6	2.0-3.4
Overweight (BMI = 25.0-29.9)	2,558	2.5	2.0-3.2
Recommended Weight (BMI = 18.5-24.9)	2,054	2.6	2.0-3.4
No Leisure Time Physical Activity	1,859	4.6	3.7-5.7
Leisure Time Physical Activity	4,993	2.0	1.6-2.4
No Moderate Physical Activity	3,545	3.4	2.8-4.1
Moderate Physical Activity	2,834	1.6	1.3-2.1
No Vigorous Physical Activity	5,206	3.1	2.7-3.7
Vigorous Physical Activity	1,346	1.0	0.6-1.5

Table 66 (continued) Previously Had a Stroke for Selected Health Behaviors and Conditions, 2007			
Health Behavior or Condition	# Respondents	% Had Stroke	95% CI
Less Than Five Servings of Fruits and Vegetables	5,365	2.4	2.0-2.9
At Least Five Servings of Fruits and Vegetables	1,365	3.4	2.5-4.5
Current Smoker	1,289	2.6	1.9-3.5
Former Smoker	1,984	3.9	3.1-4.8
Never Smoked	3,572	2.0	1.6-2.6
Smokeless Tobacco Use	308	1.8	0.8-4.0
No Smokeless Tobacco Use	6,261	2.7	2.3-3.1
Diabetes	657	10.3	7.8-13.4
No Diabetes	6,200	2.0	1.7-2.4
Hypertension	2,339	6.4	5.4-7.6
No Hypertension	4,513	1.3	1.0-1.6
High Blood Cholesterol	2,228	5.1	4.2-6.2
No High Blood Cholesterol	3,423	2.1	1.7-2.7
No Health Insurance (18-64)	405	2.2	1.0-4.9
Health Insurance (18-64)	4,027	1.2	0.9-1.6
Employer Based Health Insurance Coverage (18-64)	2,584	0.8	0.5-1.2
Private Health Insurance Plan (18-64)	557	1.5	0.8-3.0
Medicare (18-64)	156	6.2	3.1-12.1
Medicaid or Medical Assistance (18-64)	157	1.9	0.9-4.2
The Military, CHAMPUS, TriCare, or the VA (18-64)	229	2.9	1.3-6.1
The Indian Health Service (18-64)	266	1.3	0.6-3.0
No Flu Shot (65+)	504	7.6	5.4-10.6
Flu Shot (65+)	1,598	8.2	6.7-9.9
No Pneumonia Shot (65+)	726	4.2	2.9-5.9
Pneumonia Shot (65+)	1,295	10.1	8.2-12.2
Doesn't Use Sun Block	4,142	2.3	1.9-2.8
Uses Sun Block	1,610	1.7	1.2-2.5
Doesn't Know Cervical Cancer - HPV Connection (Females)	800	4.2	2.8-6.3
Knows Cervical Cancer - HPV Connection (Females)	3,015	2.6	2.0-3.3
Drank Alcohol in Past 30 Days	3,513	1.3	1.0-1.7
No Alcohol in Past 30 Days	3,301	4.2	3.5-5.0
Binge Drinker	880	0.7	0.3-1.3
Not a Binge Drinker	5,834	3.0	2.6-3.5
Heavy Drinker	220	0.9	0.3-2.6
Not a Heavy Drinker	6,423	2.7	2.3-3.1
Previously Had a Heart Attack	457	19.2	15.3-23.9
Never Had a Heart Attack	6,377	1.8	1.5-2.1
Have Angina or Coronary Heart Disease	398	18.9	14.7-24.0
Do Not Have Angina or Coronary Heart Disease	6,389	1.8	1.5-2.2
Current Asthma	499	4.4	2.9-6.4
Former Asthma	171	2.5	0.9-6.6
Never Had Asthma	6,148	2.4	2.1-2.9
Arthritis	2,428	5.2	4.3-6.3
No Arthritis	4,325	1.6	1.3-2.1
Arthritis - Activities Limited	1,161	6.1	4.8-7.7
No Arthritis - Activities Limited	5,571	2.1	1.7-2.5
Fair or Poor Health Status	1,143	9.6	7.8-11.8
Excellent, Very Good, or Good Health Status	5,695	1.6	1.3-1.9
Physical Health Not Good for 30 Days of the Past 30	500	9.0	6.4-12.5
Physical Health Not Good for 0-29 Days of the Past 30	6,206	2.1	1.8-2.5

Table 66 (continued) Previously Had a Stroke for Selected Health Behaviors and Conditions, 2007			
Health Behavior or Condition	# Respondents	% Had Stroke	95% CI
Mental Health Not Good for 20-30 Days of the Past 30	372	6.5	4.3-9.8
Mental Health Not Good for 0-19 Days of the Past 30	6,365	2.3	2.0-2.7
Usual Activities Unattainable for 10-30 Days of the Past 30	489	7.1	5.0-10.1
Usual Activities Unattainable for 0-9 Days of the Past 30	6,307	2.2	1.9-2.6
Dissatisfied / Very Dissatisfied with Life	267	5.9	3.6-9.3
Satisfied / Very Satisfied with Life	6,323	2.5	2.1-2.9
Physical, Mental, or Emotional Disability	1,559	6.5	5.3-7.9
No Physical, Mental, or Emotional Disability	5,227	1.7	1.4-2.1
Disability with Special Equipment Needed	613	9.8	7.4-12.8
No Disability with Special Equipment Needed	6,178	2.1	1.8-2.5
Two or More Hours of TV Watched Per Day	4,879	3.2	2.7-3.7
Less Than Two Hours of TV Watched Per Day	1,586	1.3	0.9-2.0
Never Been Tested for HIV (18-64)	3,439	1.3	1.0-1.8
Been Tested for HIV (18-64)	1,001	1.1	0.6-1.9
Diarrhea in Past 30 Days	963	3.0	2.1-4.2
No Diarrhea in Past 30 Days	5,608	2.5	2.1-3.0
Military Veteran	1,003	4.4	3.2-5.9
Not a Military Veteran	5,852	2.3	1.9-2.7

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007